

- sub  
C1
- B2  
w
- (f) performing a statistical comparison between the signal detected in step (e) and the signal detected in a control for each gene, wherein said control is obtained according to a method comprising the steps of:
- (i) training control *Drosophila* under appropriate conditions, wherein said conditions are insufficient to induce transcription-dependent memory formation in said control *Drosophila*;
  - (ii) extracting RNA from head tissue of said control *Drosophila* trained in step (f)(i);
  - (iii) synthesizing labeled cDNA probes complementary to the RNA extracted in step (f)(ii); and
  - (iv) hybridizing the DNA probes synthesized in step (f)(iii) to microarray chips containing DNA sequences from genes of the *Drosophila* genome under conditions appropriate for hybridization of the DNA probes to complementary DNA sequences on the microarray chips, wherein a signal is produced from said labeled probes upon hybridization of said probes to complementary DNA sequences.
- 

24. (Amended) A method of identifying a gene or genes involved in transcription-dependent memory comprising the steps of:

- B3
- (a) training *Drosophila* under conditions appropriate to induce transcription-dependent memory formation in said *Drosophila*;
  - (b) extracting RNA from head tissue of *Drosophila* trained in step (a);
  - (c) synthesizing labeled cDNA probes complementary to the RNA extracted in step (b);
  - (d) hybridizing the DNA probes synthesized in step (c) to microarray chips containing DNA sequences from genes of the *Drosophila* genome, wherein a signal is produced from said labeled probes upon hybridization of said probes to complementary DNA sequences;
  - (e) detecting the signal produced in step (d); and

- B3  
cont
- (f) performing a statistical comparison between the signal detected in step (e) and the signal detected in a control for each gene, wherein said control is obtained according to a method comprising the steps of:
- (i) extracting RNA from head tissue of control *Drosophila*;
  - (ii) synthesizing labeled cDNA probes complementary to the RNA extracted in step (f)(i); and
  - (iii) hybridizing the DNA probes synthesized in step (f)(ii) to microarray chips containing DNA sequences from genes of the *Drosophila* genome, wherein a signal is produced from said probes upon hybridization of said probes to complementary DNA sequences.
- 

#### REMARKS

##### Specification Amendments

The specification has been amended to correct a proofreading error at page 37. More specifically, the specification has been amended at page 37, line 8, to change recitation of "TBPβ" as the control gene to recitation of "TF2D" as the control gene used in the experiment described in Example 8.

Both TBPβ and TF2D are control genes which do not show transcriptional changes in QPCR reactions run in accordance with the method outlined in Example 7 of the application. The amendment to page 37 is made to recite the actual control gene used in the experiment described in Example 8. More specifically, the amendment to page 37 is made to recite that TF2D, and not TBPβ, was the control gene used in the experiment described in Example 8.

##### Paragraphs 1-5: Restriction Requirement and Election

Responsive to the Restriction Requirement, Applicants affirm the election of the invention of Group II (Claims 11-15 and 24-26) to prosecute in the subject application. Applicants reserve the right to file a continuing application or take such other appropriate action as deemed necessary to protect the invention of Group I (Claims 1-10 and 16-23). Applicants do